



# Grade Four Learning Guide

*Danbury Public Schools*

2008



## - THE ELEMENTARY SCHOOL LEARNING TREE-

### CONTENT SPECIFIC ELEMENTARY EXIT STANDARDS

The **Content Specific Elementary Exit Standards** described on the next page detail what students in the Danbury Elementary Schools should know and be able to do at the conclusion of fifth grade. They represent the *leaves* of **THE LEARNING TREE**. It is important to note that students learn at different rates and bring different experiences, strengths, and needs to the learning experience. Therefore some students will exceed the stated learning expectations, others will need additional resources to reach the desired level of performance, and some will require further modifications to achieve the desired outcomes.

### K-12 UNIVERSAL/LIFE-LONG LEARNING SKILLS

The **Universal/Life-Long Learning Skills** indicated below are those skills, which are necessary for an individual to be a life-long learner. These skills are germane to all content areas and grade levels. They represent the *trunk* of **THE LEARNING TREE** and need to be incorporated into each instructional unit, as appropriate. The Universal/Life-Long Learning Skills combined with the Content Specific Exit Standards represent the curriculum. Both components are required to address the learning needs of our students.

- ✧ **READ, WRITE AND LISTEN FOR MANY PURPOSES**
- ✧ **DEVELOP AND APPLY THINKING STRATEGIES**
  - ◆ **Ask questions for clarification and understanding**
  - ◆ **Activate relevant, prior knowledge (schema)**
  - ◆ **Determine the most important ideas or themes from information sources**
  - ◆ **Create sensory images from information sources**
  - ◆ **Analyze data and recognize patterns**
  - ◆ **Draw inferences from information sources**
  - ◆ **Synthesize information**
  - ◆ **Monitor meaning and comprehension**
  - ◆ **Engage in self-reflection to evaluate process and product**
- ✧ **DEVELOP AND APPLY SKILLS IN TECHNOLOGY TO THE LEARNING PROCESS**
- ✧ **COMMUNICATE WITH CLARITY AND PRECISION**



## CONTENT SPECIFIC ELEMENTARY EXIT STANDARDS

**By the end of Grade 5 students will be able to:**

### **LANGUAGE ARTS**

- Develop proficiency in the areas of reading, writing, speaking, listening, and viewing.
- Construct meaning and respond thoughtfully to a variety of material from print, non-print, and electronic materials.
- Use a variety of strategies to create and develop meaning when reading, writing, listening, speaking, and viewing.
- Express questions, thoughts, interpretations, and opinions related to material from print, non-print, and electronic source content and purpose in both oral and written form.
- Develop stories, essays, and poems using the writing process.
- Read to learn and for pleasure.

### **MATHEMATICS**

- Use mathematical skills, techniques, and applications to solve problems.
- Demonstrate an operational sense of the fact families in addition and subtraction through 18, and multiplication and division through the 9's table.
- Demonstrate number sense by counting, comparing, estimating, and using place-value concepts in whole numbers, fractions, and decimals.
- Demonstrate spatial sense by describing, modeling, drawing, and classifying shapes, and relate geometric ideas to numbers and measurement ideas.
- Use mathematical reasoning to solve problems by applying number sense or using spatial relationships.
- Use common units of measure such as length, capacity, weight, area, volume, time, temperature, and angles.
- Select and use computational techniques appropriate to specific whole number problems, and determine whether the results are reasonable.
- Collect organize, and describe data.
- Explain verbally and in writing all taught mathematical concepts.

### **SCIENCE**

- Make accurate observations involving biology, physical, and chemical characteristics.
- Describe how organisms share basic characteristics, which include life cycles that begin with birth and end with death.
- Describe why water is important for life.
- Diagram the earth and describe how it obtains its energy from the Sun.
- Demonstrate that matter has physical and chemical properties that can be changed.
- Use scientific instruments correctly in gathering data.
- Demonstrate how science, math, and technology are interrelated.



### **SOCIAL STUDIES**

- Demonstrate an understanding of social studies units of study by acquiring, organizing, interpreting, and applying data from various forms of print and non-print material.
- Use historical statements and concepts to assist in decision-making about public issues.
- Recognize and apply distance, direction, scale, map symbols, latitude, and longitude through the use of maps and globes.
- Recognize and understand events, personalities, geographic and economic factors that have shaped the history and culture of Danbury, Connecticut and other regions of the United States.
- Demonstrate an understanding of the historical and economic events that created and transformed the new American Nation to 1800.

### **INFORMATION LITERACY AND TECHNOLOGY**

- State a simple research question, present research findings in a variety of formats, and compile a list of works cited for any presentation.
- Locate and use materials with appropriate guidance from a variety of sources including print, non-print, electronic, and the Internet to answer a research question.
- Select books and articles from the major literacy genres: novels, short stories, poetry, and non-fiction for independent reading.
- Select, access and use software appropriate to a given task and create a multi-media presentation to communicate ideas.
- Follow Acceptable Use Policy Guidelines for safe and appropriate use of the Internet.

### **MUSIC**

- Develop introductory listening, singing, movement, and instrumental skills.
- Read, understand, and apply basic musical notation and vocabulary.
- Discuss appropriate historical, cultural, and interdisciplinary elements of music.

### **VISUAL ARTS**

- Demonstrate a basic knowledge of elements and principles of art and their creative application to two and three-dimensional design.
- Explore a variety of appropriate art methods, media, and subjects.
- Understand appropriate historical, cultural, and interdisciplinary elements of art.

### **PHYSICAL EDUCATION**

- Demonstrate age appropriate form in the fundamental movement skills: locomotor, nonlocomotor, and selected manipulative skills.
- Recognize the personal physiological effects that accompany moderate to vigorous physical activity.
- Recognize the contributions that individual differences add to group activities.

### **HEALTH EDUCATION**

- Explain how childhood injuries and illnesses can be prevented.
- Demonstrate the ability to locate school and community health helpers.
- Compare behaviors that are safe to behaviors that are risky or harmful.
- Explain how media influences thoughts, feelings, and health behaviors.
- Demonstrate the ability to apply a decision-making process to health issues and problems.



# GRADE FOUR BODY OF KNOWLEDGE

- **Content Exit Standards**
- **Building Blocks**  
to Achieve the Application of  
Universal/Life-Long Learning Skills  
and Content Exit Standards



## GRADE FOUR CONTENT EXIT STANDARDS

**The content standards detailed below are to serve as the foundation for each grade four student's classroom-based instructional experience:**

### **Reading**

- Analyze and interpret words using a variety of strategies and make reasonable attempts at new words
- Read silently; read fluently when reading aloud
- Develop and apply universal thinking and comprehension strategies to understand and interpret a variety of fiction and nonfiction texts
- Employ the language arts for lifelong learning, work, and enjoyment

### **Writing**

- Make informed choices about linguistic features, organization, and development of ideas and information according to audience and purpose
- Develop and apply legible penmanship

### **Speaking, Listening, Viewing, and Enacting**

- Demonstrate grade appropriate use of standard English and delivery strategies
- Respond critically to oral communication, films, videos, presentations, graphics, and written work
- Perform in a manner that guides the listener's understanding of key ideas, using appropriate phrasing, pitch, and modulation

### **Mathematics**

- Use alternative forms of expressing numbers
- Use whole numbers and fractions to determine magnitude, compare, order, picture, and round
- Develop estimation strategies
- Use strategies, to add and subtract, multiply, and divide Rational Numbers.
- Extend patterns and identify or state the rule for a given pattern.
- Use elementary statistics to analyze data
- Use money, apply time, measure length
- Develop spatial relationships in Geometry

### **Social Studies**

- Use the five themes of geography to further develop an understanding of geography
- Understand how physical and human factors influence economic activities in each of the five regions of America
- Understand ways in which the five regions of America are alike, are unique, and are connected to each other and other geographic regions
- Demonstrate knowledge of major trends in state and local history
- Understand the importance of cultural unity and diversity within and across groups
- Demonstrate an understanding of the purposes of government

**Science**

- Recognize the development of plants
- Recognize plant as consisting of individual cells
- Demonstrate an understanding of the plant life cycle
- Understand that weathering and erosion resulting in the formation of soils, and changing the topography of the environment affect landforms
- Recognize the minerals are an important part of our economy
- Recognize various energy forms
- Recognize the makeup of the atmosphere and how it affects the weather on the Earth
- Demonstrate and understand the makeup of different types of clouds and how they affect the weather on Earth
- Demonstrate an understanding of how the tilt of Earth's axis affects changing seasons worldwide

**Information Literacy and Technology**

- Operate and use computers and other technologies as tools for productivity, problem-solving and learning across the content areas
- Define information needs and identify effective courses of action to conduct research and solve problems
- Understand and demonstrate a command of information skills and strategies to locate and effectively use print, non-print and/or digital resources to solve problems and conduct research
- Apply evaluative criteria to the selection, interpretation, analysis, reorganization and synthesis of information from a variety of sources and formats
- Use appropriate technologies to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others
- Evaluate the effectiveness and efficiency of their own choices and uses of information and technology for problem-solving and communication
- Demonstrate the responsible, legal and ethical use of information resources, computers and other technologies
- Develop life-long reading habits to foster personal enrichment and continuous learning
- Develop a deeper awareness of media literacy as a life skill that is integral to modern citizenship and informed decision-making



**BUILDING BLOCKS TO ACHIEVE:**

**THE APPLICATION OF THE  
UNIVERSAL/LIFE-LONG LEARNING SKILLS**

and

**THE CONTENT EXIT STANDARDS**

*The information provided in this section is offered to support the teacher's planning, delivery, and assessment efforts.*



## K-12 UNIVERSAL/LIFE-LONG LEARNING SKILLS

### GRADE FOUR APPLICATION OF UNIVERSAL/LIFE-LONG LEARNING SKILLS

The skills detailed below are to be integrated in all instructional experiences - wherever and whenever possible.

- **READ, WRITE AND LISTEN FOR MANY PURPOSES**

- Sustain reading over texts that require reading over several days or weeks

- Use personal criteria to select reading material (*e.g., interest, knowledge of author/genre, text difficulty, recommendation of others*)

- Connect texts with previous texts read, seeing similarities and differences

- Set personal goals for purposeful, sustained reading and self-assess progress

- Demonstrate strong feelings about reading preferences and can justify opinions

- Recommend texts to others

- Respond with curiosity and awe

- **DEVELOP AND APPLY THINKING STRATEGIES**

- **Ask questions for clarification and understanding**

- Ask and answer literal and inferential questions of themselves and the information sources they use before, during and after reading

- Question context, content, probability/possibility and format

- Confirm and revise predictions and questions using prior knowledge, text information/format, and key words

- Understand that some answers to some questions are found in the text, but that others must be inferred based upon background knowledge or supported through other resources

- Determine appropriate sources of information to answer a question

- Use information literacy skills to ask, research and answer an essential question

- Understand that new questions may be raised when listening to others' questions

- Understand that many of the most intriguing questions are left to the reader's interpretation

- **Activate relevant, prior knowledge (schema)**

- Continuously build background knowledge and realize that this knowledge needs to be brought to their reading

- Modify predictions based on genre, author, topic, organization of text, or ideas presented by others

- Determine which sources of information to access to answer a question

- Determine the most important ideas and themes from information sources

- Justify meaningful, relevant connections when extending meaning

- **Determine the most important ideas or themes from information sources**

- Use text organizers and structure (*e.g., headings, topic sentences, graphic features, guide words, bold typeface, chapter titles*) to determine main ideas and to locate information in text

- Distinguish fact vs. opinion in text

- Identify important details from a text or other sources

- Record basic information and important details from a text or other sources

- **Create sensory images from information sources**

- Create sensory and visual literacy images related to character, plot, setting, theme, or topic

- Capture meaning from figurative language (*e.g., similes, metaphors, poetic images, onomatopoeia, hyperbole, alliteration, and personification*)

- **Analyze data and recognize patterns**
  - Recognize, use and value sensory data (*e.g., observations*) as sources of information
  - Recognize and use organizational, print and graphic features to assist in identifying important ideas and themes
  - Understand that author's manipulate language to express meaning and emotion
  - Organize information from text using outlines and various graphic organizers
  - Use multiple resources to locate information (*e.g., index, glossary, dictionary, thesaurus, directory, website*)
  - Interpret and use the information from a wide variety of text formats and visual aids
  - Analyze the connection among illustrations, text and format in communicating meaning
  - Make critical comparisons between texts
- **Draw inferences from information sources**
  - Use language and text meaning to gain individual word meaning
  - Form tentative theories as to the significance of the events
  - Understand what is not stated but is implied
  - Make and justify inferences based on implicit information
  - Begin to develop empathy for fictional or historical figures
- **Synthesize information**
  - Demonstrate ability to integrate new knowledge with prior knowledge, relating important ideas to each other
  - Expand personal understandings by incorporating vicarious experiences from other sources, including texts, discussions, videos, etc.
  - Compare context, content, probability/possibility and format of multiple sources
  - Summarize and paraphrase information orally and in writing
  - Present information in written, visual, oral and multimedia products
  - Make generalizations about a topic after reading more than one text
  - Provide evidence to support predictions, inferences, opinions and logical conclusions, and generalizations
- **Monitor meaning and comprehension**
  - Recognize when one does not understand
  - Recognize mismatches between text and one's oral responses
  - Self-correct when essential for understanding or oral reading performance
  - Use multiple sources of information to check and correct reading
  - Vary speed to provide for the amount of problem solving needed
- **Engage in reflection to evaluate process and product**
  - Evaluate own and others' work and verbalize/chart criteria used
  - Assess whether a text is consistent with prior knowledge
  - Judge accuracy of information
  - Begin to judge qualifications of the writer to produce authentic text
  - Begin to examine and discover bias in texts
  - Begin to appreciate aesthetic qualities of a text
- **DEVELOP AND APPLY SKILLS IN TECHNOLOGY TO THE LEARNING PROCESS**
  - Expand skills in word processing, graphics, telecommunications and presentations
  - Use appropriate technologies to create written, visual, oral and multimedia presentations
- **COMMUNICATE WITH PRECISION AND CLARITY**

## Content Specific Curriculum Standards and Building Blocks

### -Reading/Language Arts-

#### Reading

- **Analyze and interpret words using a variety of strategies and make reasonable attempts at new words**

##### Initial Understanding

Use knowledge of language syntax (*patterns of rules by which words are put together in meaningful phrases and sentences*) when decoding words.

Begin to explore word derivations

##### Developing an Interpretation

Analyze words using letters and letter clusters (*e.g., /ch/ as in machinery, chemistry, and chip*)

Increase vocabulary knowledge and pronunciation through encounters with many different kinds of texts and with a variety of new words and various semantic organizers (*e.g., semantic word webs, concept of definition, semantic feature analysis*)

Understand and explain level-appropriate reading vocabulary (*e.g., synonyms, antonyms, homophones, homographs, idioms, analogies, and multi-meaning words*)

##### Making Connections

Use analogies of known words, phonetic and structural analysis techniques (*e.g., vowel patterns, Greek and Latin root words and affixes, begin to use complex word families and syllabication*), and semantic context to decode and make meaning of unknown single and multi-syllabic words

- **Read silently; read fluently when reading aloud**

##### Initial Understanding

Independently read aloud from unfamiliar Level R books (*fiction and nonfiction*) with 97% accuracy or better

Independently read aloud from unfamiliar Level R books (*fiction and nonfiction*) at a rate of 100-135 correct words per minute

Apply knowledge of language to keep reading moving forward

Use rapid automatic word recognition and word-solving skills

Adjust rate and intonation as appropriate to text, audience and purpose using punctuation, pausing, and phrase units to convey meaning

- **Develop and apply universal thinking and comprehension strategies to understand a variety of fiction and nonfiction texts**

##### Initial Understanding

Preview text (*e.g., skim material; use pictures, textual clues, and text format*) to get an overall idea of content

Establish a purpose for reading (*e.g., for information, for pleasure, to begin to understand a specific viewpoint*)

Understands basic concept of plot (*e.g., main problem, conflict, resolution, cause-and-effect*)

Understand elements of character development in relationship to: appearance to plot, theme (*e.g., the value of friendship, power of imagination*) and stereotypical versus fully developed characters

Infer characteristics of characters, setting, plot, events, theme, conflict

##### Developing an Interpretation

Infer author's viewpoint and purpose

Know the defining characteristics and purposes of a variety of literary forms/genres and informational text (*e.g., textbooks, informational articles, memoir, biographical sketches, news stories, letters*)

Read and begin to comprehend text that is removed from personal experience

Determine character traits using knowledge of the characters' situations

Identify and explain the difference between first-, second-, and third-person point of view

Understand underlying theme or message (*e.g., big ideas about injustice, poverty, survival, war, integrity*)

Determine an author's purpose for choosing a certain genre

Determine an author's purpose for including or omitting details to create meaning

Begin to understand causes for complex events in text

Draw conclusions and support those conclusions with evidence from text

### Making Connections

- Analyze how characters deal with diversity and adversity relating to real world situations
- Identify the best/worst part of an event or situation in text
- Compare and contrast and analyze works of authors
- Compare and contrast and analyze text elements between and among different texts
- Uses vocabulary and specific phrases from story when responding to text
- Incorporate new knowledge of texts and words into personal repertoire of reading skills

### Critical Stance

- Analyze and evaluate elements of writer's craft the author uses to appeal to the reader (*e.g., humor, point of view, use of simile, metaphor, personification, imagery, word choice, onomatopoeia, and style*) across genres
- Draws conclusions about characters' qualities and actions
- Synthesize information in the text to extend the meaning (*e.g., what might the next paragraph be about*)
- Evaluate explicit and implicit information and themes
- Recognize and begin to be able to offer reasons why a text may be interpreted differently by different readers
- Evaluate the merits of text or elements of texts based on class-established criteria (*e.g., effective use of figurative language, character development, theme, mood, humor, point of view*)
- Begin to recognize ways readers and writers are influenced by factors such as their time, culture, and experiences
- Begin to recognize and judge ways authors represent people from different cultural and socioeconomic groups

## Writing

- **Make informed choices about linguistic features, organization, and development of ideas and information according to audience and purpose**

### Initial Understanding

Generate, explore, and develop topics and ideas

### Developing An Interpretation

Use a variety of strategies to write for different audiences (e.g., adapts focus, determines knowledge and interests of audience)

Purposely choose a specific organizational format

Assume responsibility for planning, revising, editing, and publishing to ensure writing achieves its purpose

Begin to effectively control structural features of a large repertoire of text forms

- **Narrative/poetry:** e.g., orient or engage the reader, create a believable world, introduce characters through precise choice of detail, changing episodes, story grammar elements, provide pacing, begin to develop character motivation/emotions/actions, develop plot, and provide a conclusion/ending, use interesting vocabulary, use literary devices, write personal narratives, include descriptive anecdotes to enhance elaboration, write cinquain, refrain, and imagery poetry
- **Functional:** e.g., establishes context, identifies topic provides a guide to action, shows steps to action with specific detail, includes relevant information, clear straightforward language, uses illustrations/diagrams if appropriate
- **Expository:** e.g., communicate big ideas with elaboration and support using structure, introductions and conclusions, transitions, appropriate text features (e.g., *headings, diagrams*), excludes extraneous and inappropriate information, and a straightforward tone of voice, include descriptive anecdotes within piece to enhance elaboration
- **Responsive:** e.g., support interpretations by making specific references to text, provide enough detail from text so reader can understand interpretation, go beyond retelling, compare two works by an author, discuss several works around a common idea or theme, make connections between the text and their own ideas and lives, uses individual, authentic voice.

Develop ideas and information clearly, sustaining coherence throughout complex text

Begin to develop pieces of writing that have voice

Begin to deliberately structure sentences to enhance a text (e.g., *use of introductory adverb clause, vary sentence structures and length within a piece*)

Begin to modify and restructure phrases, paragraphs, or whole texts to clarify and achieve precise meaning

Begin to select and manipulate words or phrases for their shades of meaning and impact

Apply spelling knowledge in writing:

Vowels and patterns

Affixes at end of words (e.g., *-en, -in, -on, -an*),

Appropriate use of *-ge* and *-dge*,

High frequency words (e.g., *people, water*),

Common homophones (e.g., *your, you're*)

Base words (e.g., *turn in return*) and roots (e.g., */bio/ "life" and /graph/ "to write" from biography*)

Use knowledge about morphology and structural analysis as aid to spelling words

Use capitalization, punctuation, and usage rules from previous grades plus

Capitalize abbreviations and important words in title or article

Use commas to set off titles/initials, in a complete address, after introductory phrases

Use italics, underlining or quotation marks when appropriate for titles

Use hyphens between syllables at line breaks and colon after business letter greeting

Use single/plural agreement between nouns and modifiers (e.g., *one child and two children*)

Logically use conjunctions (e.g., *and, also, or, but, instead, actually, so, as a result of*)

Correct use of pronouns and pronoun placement in sentences (e.g., *Juanita and I not Juanita and me*)

Use resources to find correct capitalization and spelling

Indents paragraphs consistently

Cite sources (e.g., *lists titles and authors alphabetically*)

### Making Connections

Recognize and use what one knows from reading texts and aspects of author's craft to develop and improve ones writing

### Critical Stance

Evaluate own and other's writing to ensure that content and organization suit the purpose and audience

Evaluate if own or other's writing has successfully involved the reader by the use of literary devices

Judge if own or other's writing has appropriately used subject-specific vocabulary

Apply standard and personal criteria to judge the quality of ones own and other's writing

Apply standard and personal criteria to evaluate publishing process and final format

- **Develop and apply legible penmanship**

### Initial Understanding

Write legibly in cursive, adhering to margins and correct spacing between letters in a word and words in a sentence

## **Speaking, Listening, Viewing and Enacting**

- **Demonstrate grade appropriate use of standard English and delivery strategies**

### Developing an Interpretation

Use level-appropriate vocabulary (e.g., familiar idioms, similes, subject-specific)

### Making Connections

Use language strategies to convey a clear main point and to share understanding and experiences (e.g., expresses ideas in logical manner, uses specific vocabulary to begin to establish tone and present information)

- **Respond critically to oral communication, films, videos, presentations, graphics and written work**

### Initial Understanding

Ask and responds to questions (e.g., when confused, to seek opinions, comment, and for supporting evidence)

Listen for specific information

### Developing an Interpretation

Understand and eliminate barriers to effective listening

Use paraphrasing and restating to clarify meaning and confirm understanding as a listener

Understand different messages conveyed through visual media (e.g., main ideas/supporting details in expository contexts and main characters, setting and sequence of events in narrative contexts)

Begin to understand that language reflects different regions and cultures (e.g., sayings; expressions, usage, oral traditions and cultures)

Understand that stereotyped gender, age, or race could have been represented differently

Understand and explore techniques used to convey messages (e.g., animation, different tones of voice in audio productions, sound, color)

### Making Connections

Interpret the use of nonverbal cues used in conversation (gestures, facial expressions, etc.)

Refer to knowledge built during discussion

Understand the similarities and differences between real life and life depicted in other media

### Critical Stance

Evaluate message and format according to class determined criteria

Begin to evaluate the effect of media's use of different features to influence a viewer's perception ( facial/body expressions, clothing, relationships, sound, omissions)

- **Perform in a manner that guides the listener's understanding of key ideas, using appropriate phrasing, pitch and modulation**

### Developing an Interpretation

Use comparison and analogies to explain ideas

Use a variety of verbal (e.g., projection, volume, rate, articulation) and nonverbal communication skills

Organize ideas for oral presentations (e.g., uses introduction and conclusion; uses familiar text structures; uses notes or other memory aids)

Confidently and accurately use subject-specific vocabulary

Apply formats and characteristics of familiar media (e.g., format of quiz shows, contestants, types of advertising such as T-shirts or commercials) to presentations

### Making Connection

Restate own ideas with greater clarity when a listener indicates non-comprehension

### Critical Stance

Evaluate one's own and others' presentation according to class determined criteria

## **-Mathematics-**

- **Use alternative forms of expressing numbers**

### Developing an Interpretation

- Identify alternative forms of expressing whole numbers  $< 1,000$  using expanded notation
- Identify alternative forms of expressing whole numbers  $< 1,000$  using regrouping

### Making Connections

- Solve problems involving 10 and 100 more or less
- Use place value concepts to interpret the meaning of numbers
- Solve problems involving elementary notions of probability

- **Use whole numbers and fractions to determine magnitude, compare, order, picture, and round.**

### Initial Understanding

- Construct pictorial representations of fractions, decimals (tenths) and mixed numbers
- Identify points representing whole numbers fractions and decimals on a number line

### Developing an Interpretation

- Order and Describe the magnitude of whole numbers  $< 10,000$
- Relate fractions and mixed numbers to pictorial representations, and vice versa
- Relate decimals (0.1 - 2.9) to pictorial representation, and vice versa
- Relate equivalent fractions (using pictorial representations)
- Describe magnitude of fractions, mixed numbers, and decimals (tenths)

### Making Connections

- Round whole numbers in context

- **Develop estimation strategies**

### Developing an Interpretation

- Identify the best expression to find an estimate.
- Determine a reasonable estimate and describe the strategy used to make the estimate
- Estimate a reasonable answer to a problem including estimating change from \$1, \$5, and \$10
- Estimate lengths
- Estimate area

### Critical Stance

- Use estimation to make and defend decisions

- **Use strategies, to add and subtract, multiply, and divide Rational Numbers.**

### Initial Understanding

- Find multiplication facts where one factor is 2, 3, 4, 5 or 10
- Find division facts where one factor is 2, 3, 4, 5 or 10
- Add and subtract 2 and 3 digit whole numbers and money amounts  $< \$10.00$

### Developing an Interpretation

- Identify members of multiplication and division fact families from arrays
- Solve 1-step problems involving whole numbers and money amounts
- Solve simple story problems involving add and subtract with extra information.

### Making Connections

- Solve 1-step problems and explain how the solution was determined
- Solve extended numerical problems
- Write the appropriate operations or number sentence to solve a story problem
- Write a story problem that matches a given addition, subtraction or multiplication number sentence

- **Extend patterns and identify or state the rule for a given pattern.**

### Making Connections

- Extend or complete patterns involving numbers and attributes

### Critical Stance

- States rules for given patterns and defend your answer.

- **Use Elementary Statistics to analyze Data**

### Initial Understanding

- Create bar and pictographs from data in tables and charts

### Developing an Interpretation

Solve problems involving the organization of data, including sorting objects and data by common attribute  
Identify correct information from tables, graphs, and charts

### Making Connections

Solve extended statistical problems

### Critical Stance

Justify reasonable conclusions from tables, graphs, and charts

- **Use money, apply time, measure length,**

### Initial Understanding

Measure or draw lengths to the nearest inch, 1/2-inch.

Measure or draw lengths to the nearest centimeter

### Developing an Interpretation

Identify an appropriate customary measure for a given situation

Identify an appropriate metric measure for a given situation

### Making Connections

Solve problems involving elapsed time

Solve problems involving the conversion of measures of time

- **Develop spatial relationships in Geometry**

### Initial Understanding

Identify and draw geometric shapes and figures

Describe geometric shapes and figures

### Making Connections

Solve extended spatial problems

### Critical Stance

In Mathematics justifying, proving or explaining a conjecture or answer is connected to the learning environment. Students are encouraged and expected to question one another's ideas and to explain and support their own ideas in the face of others' challenges. Each objective in mathematics can be framed to have students defend, support, explain, or prove their answer. Educational research offers compelling evidence that students learn mathematics well only when they construct their own mathematical understandings. To understand what they learn, students must enact for themselves verbs that permeate the mathematics curriculum: "examine," "represent," "transform," "solve," "apply," "prove."

## -Science-

### Physical Science – Force and Motion

#### What makes objects move the way they do?

- **Recognize that the position and motion of objects can be changed by pushing or pulling**

#### Initial Understanding

Understand the relationship between push and pull on an object

Observe that the size of the change in an object's motion is related to the strength of the push or pull

#### Developing an Interpretation

Explain that the more massive an object is, the less effect a given force will have on its motion

#### Making Connections

Illustrate the effect of the mass on an object on its motion

#### Critical Stance

Demonstrate the ramification of push and pull on objects in space

### Life Science – Matter and Energy in Ecosystems

#### How do matter and energy flow through ecosystems?

- **All organisms depend on the living and non-living features of the environment for survival**

#### Initial Understanding

Understand that when the environment changes, some organisms survive and reproduce, while others die (become extinct) or move to new locations (emigrate)

#### Developing an Interpretation

Use the terms biotic and abiotic, emigration and immigration as it pertains to ecosystems

Describe the interdependence that exists between plants and animals

#### Making Connections

Create and use simulation models of an ecosystem whose parameters are biotic, abiotic, emigration and immigration

Identify how animals, directly, or indirectly, depend on plants to provide the food and energy they need in order to grow and survive

#### Critical Stance

Demonstrate with words and/or pictures that show how natural phenomena and some human activities may cause changes to habitats and their inhabitants

### Earth Science – Energy's in the Earth's systems

#### How do external and internal sources of energy affect the Earth's systems?

- **Water has a major role in shaping the Earth's surface**

#### Initial Understanding

Identify and understand the water cycle

Understand that water is an integral force on Earth

#### Developing an Interpretation

Explain that water circulates through the Earth's crust, oceans and atmosphere

Explain how the sun's energy impacts the water cycle

#### Making Connections

Examine the role of water in erosion and river formation

#### Critical Stance

Explain that water in various forms and amounts plus the interaction of the underlying bedrock determine the type and kind of erosion that results

Explore alternative water interactions

## **Energy Transfer and Transformation**

### **What is the role of energy in our world?**

- **Electrical and magnetic energy can be transferred and transformed**

#### Initial Understanding

Give examples of electrical circuits

Define the properties of magnetism

#### Developing an Interpretation

Describe how batteries and wires can transfer energy to light a light bulb

Explain how magnets can make objects move

#### Making Connections

Explain how simple electrical circuits can be used to determine which materials conduct electricity

Describe how electricity in circuits can be transformed into light, heat, sound and magnetic effects

Understand how magnets can make objects move without direct contact between the object and the magnet

#### Critical Stance

Explore the properties of electrical circuits that produce light, heat, sound and magnetic effects

Explain the properties of magnets, and how they can be used to identify and separate mixtures of solid materials

## **Social Studies**

- **Use the five themes of geography to further develop an understanding of geography**

### Initial Understanding

- Draw a simple map of the continents and oceans
- Describe relative locations of states and regions in the United States
- Measure distances between places using the bar scale
- Describe the influence of elements and wind on climate and weather
- Locate major physical and human features in New England regions and the United States

### Developing an Interpretation

- Identify and explain the five themes of Geography
- Observe and describe how places and regions change and are connected
- Describe the consequences of interactions between the physical and human systems

### Making Connections

- Demonstrate how earth-sun relationships shape climates and vegetation patterns.
- Explain how the physical environment affects the way people live
- Interpret and use maps of the regions of the United States

### Critical Stance

- Understand the factors that affect the location, distribution, and association of features of the physical environment

- **Understand how physical and human factors influence economic activities in each of the five regions of America**

### Initial Understanding

- Locate and name the fifty states and their capitals
- Give examples of various economic systems in a given region
- Define local and regional environmental features

### Developing an Interpretation

- Explain the use of human, natural, and capital resources
- Describe how workers in specific regions contribute to the production and exchange of goods and services
- Explain how geography and natural resources determine what will be produced
- Explain why the price of a good or service is related to how much there is and how many people want it

### Making Connections

- Understand how natural phenomena (floods, drought) affect society, the economy, and the environment
- Examine the effects of changing technologies on the global communities
- Explain why some regions are richer than others

### Critical Stance

- Explain existing uses and purposes of land resource
- Explore alternative uses of resources

- **Understand ways in which the five regions of America are alike, are unique, and are connected to each other and other geographic regions**

### Initial Understanding

- Identify the five geographic region and the states located within each
- Identify the first people to live in each region
- Identify key environmental features of each region
- Distinguish between weather and climate, customs and cultures, and renewable and non-renewable resources
- Identify the key crops, industries, animals, products, and monuments from each region.

### Developing an Interpretation

- Demonstrate an understanding of the legacy (heritage) of each region
- Explain the separate and shared heritages in America
- Explain how distance from the equator, elevation, oceans, and winds affect climate
- Examine the cultures of Native Americans in all parts of America

### Making Connections

Create and use different types of maps  
Trace and compare routes across America

Explain how climate affects where and what we grow and eat  
Understand the role of rivers in the development of America

### Taking A Critical Stance

Describe how geography and heritage shape the economy and life styles of a region

- **Demonstrate knowledge of major trends in state and local history**

### Initial Understanding

Locate places within Danbury and within other communities in Connecticut  
Identify the political, social, and economic units of New England  
Define and give examples of institutions and how they influence units of New England

### Developing an Interpretation

Demonstrate a familiarity with people, places, and events from the history of original peoples and early settlements in New England  
Explain some of the reasons people have moved and relate these to some historic movements of large groups of people  
Describe and give examples of tensions among individuals, groups, and institutions

### Making Connections

Understand the behaviors that foster a sense of community

### Critical Stance

- **Understand the importance of cultural unity and diversity within and across groups**

### Initial Understanding

Identify ways different cultures record their history  
Understand the elements of culture and how they change  
Explain the patterns, distributions, and relocations of people

### Developing an Interpretation

Provide reasons why and describe how places and regions change and are connected  
Explain how locations and characteristics of human settlement in the United States have changed over time  
Describe ways in which language, literature, music and artistic creations are reflective of people living in different regions of the United States  
Explain different types of conflict and different ways in which conflicts have been resolved

### Making Connections

Illustrate what it is like to travel to or live in another region of the United States  
Display empathy for people who have lived in the past

- **Demonstrate an understanding of the purposes of government**

### Initial Understanding

Define power and authority and how they evolve into government  
Define and describe government in terms of people and groups who apply and enforce rules and laws  
Explain the meaning and important characteristics of citizenship in the United States

### Developing an Interpretation

Distinguish among local, state, and national governments  
Identify representative leaders at their level  
Explain the purposes of laws and the ideas and principles that make just laws

### Making Connections

Understand that individuals have rights and responsibilities to follow the law  
Understand that rules and laws are created to solve problems and resolve conflicts

### Critical Stance

Exercise political participation by discussing public issues, building consensus

## **Information Literacy And Technology**

- **Operate and use computers and other technologies as tools for productivity, problem-solving and learning across the content areas**

### Initial Understanding

- Use basic operational features of available technology (digital cameras, scanners, etc.)
- Operate school computers and demonstrate ability to use the system's software and special features
- Use established procedures to obtain assistance with hardware and software problems

### Developing an Interpretation

- Create word processing documents, drawing and paint documents, graphs, web pages and multimedia presentations, using age appropriate software
- Work in more than one program or window at the same time
- Understand and expect that technology tools are constantly changing
- Distinguish between different technologies and their uses

### Making Connections

- Describe ways the computer is used to help people work, learn and play
- Work collaboratively and cooperatively with peers and others when using computers
- Use content-specific technology tools and software
- Develop standard keyboarding skills

- **Define information needs and identify effective courses of action to conduct research and solve problems**

### Initial Understanding

- Identify keywords for searching for information (with assistance)

### Developing an Interpretation

- Identify existing knowledge and, independently, list areas where more information is needed.
- Identify appropriate print, non-print, and / or electronic resources available through library media center, and understand the advantages and disadvantages of each (with assistance)

### Making Connections

- Clearly restate the scope and criteria of a task (such as timeline, length, audience and presentation mode) with minimal prompting
- Describe a course of action for addressing an essential question and completing the task

### Critical Stance

- Frame an essential question that is related to a topic of interest or a given assignment (with assistance)

- **Understand and demonstrate a command of information skills and strategies to locate and effectively use print, non-print and / or digital resources to solve problems and conduct research**

### Initial Understanding

- Select appropriate print, non-print and / or electronic resources, (atlases, almanacs, encyclopedias, dictionaries, newspapers, telephone directories, etc.) understanding that information is stored and accessed in different ways
- Perform simple keyword searches
- Use Internet resources to locate information, with supervision

### Developing Interpretation

- Use basic print, non-print, and electronic reference sources (atlases, almanacs, encyclopedias, dictionaries, newspapers, telephone directories, etc.) to locate information
- Take print and/or electronic notes in own words from several sources of information

### Making Connections

- Apply principles of organized information systems to learning endeavors
  - Alphabetize by word to find information in resources
  - Use the online catalog to locate materials by author, title, or subject
  - Locate information from various areas of the media center, including use of the Dewey Decimal System

- Use organizing features of print, non-print and electronic materials (parts of a book, bibliographies, simple menus and hyperlinks) to locate and use information
- Use an Internet search engine from a selected list to locate information
- Navigate Internet web sites

Interpret charts, graphs and tables in information sources

- **Apply evaluative criteria to the selection, interpretation, analysis, reorganization and synthesis of information from a variety of sources and formats**

#### Initial Understanding

Determine appropriate sources of information for a specific purpose

#### Developing Interpretation

Use technology to organize and reorganize information

#### Making Connections

Develop and apply criteria to judge the relevance, credibility, currency and completeness of information, including Internet resources

Organize information into related categories

#### Critical Stance

Use critical evaluation skills in listening and viewing

- **Use appropriate technologies to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others**

#### Initial Understanding

Understand strengths and weaknesses of various media formats in creating a presentation

#### Making Connections

Construct slide shows, multimedia presentations, web pages, spreadsheets, databases to communicate ideas or data and present conclusions

Create and use digital images in presentations

#### Critical Stance

Determine the most appropriate technology and format to present information and new knowledge

Create and share clear and meaningful presentations that communicate information and new knowledge appropriate for a specific audience

- **Evaluate the effectiveness and efficiency of their own choices and uses of information and technology for problem solving and communication**

#### Critical Stance

Evaluate their process for searching (with assistance)

Assess the retrieved information for relevancy and completeness (with assistance)

Use a rubric to assess whether the product meets conventional standards and expresses ideas clearly (with assistance)

- **Demonstrate the responsible, legal and ethical use of information resources, computers and other technologies**

#### Initial Understanding

Understand that the right to copy original works is owned by the author or artist

#### Developing an Interpretation

Practice responsible use of print and non-print materials, computers and other technologies and networks

#### Making Connections

Give citation credit to original sources when using or transmitting information to others

#### Critical Stance

Demonstrate positive social and ethical behaviors by observing the legal and ethical limitations for using or copying print, non-print or electronic information sources

- **Develop life-long reading habits to foster personal enrichment and continuous learning**

#### Initial Understanding

Locate and access various genres of literature in the media center using the electronic card catalog

#### Developing an Interpretation

Choose various genres for pleasure reading and/or listening

Choose a variety of reading material for information

Making Connections

Explain the role that reading plays as a valid activity outside of school  
Analyze personal reading habits for the purpose of expanding reading choices

Critical Stance

Evaluate and choose reading materials based on interest, readability, and relevance

- **Develop a deeper awareness of media literacy as a life skill that is integral to modern citizenship and informed decision-making**

Initial Understanding

Recognize that information comes to us from a variety of media sources - print, television, radio, Internet  
Recognize that the message from a media source may have a purpose that is unstated and or biased

Developing an Interpretation

Describe how an individual's understanding and interpretation of media differs based on his/her emotions, experiences, biases, social and cultural attitudes and back round

Making Connections

Identify messages from media sources and analyze for purpose/ bias

Critical Stance

Analyze and evaluate information read, heard or seen for relevance and credibility